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The Lambrecht Foulbrood Cure.

In the BEE JOURNAL for August we mentioned that the final report of the committee appointed to test Mr. Lambrecht's ability to cause and cure foulbrood, had not then reached us, though we understood it had been made. We have since received it; and as we know that many of our readers feel a deep interest in this matter, and as every apiary is liable to be invaded by the devastating malady, we subjoin a translation of the four certificates issued by the committee, showing how their proceedings were conducted, and stating as the result of the test that, in a healthy colony of bees, the disease had been produced and then cured, by the means employed by Mr. Lambrecht.

The colony for experiment was selected from the apiary of Mr. Gravenhorst, thoroughly examined by the committee, pronounced to be in a healthy condition, and then submitted to Mr. Lambrecht for treatment. This appears from

CERTIFICATE No. 1.

BRUNSWICK, April 1, 1869.

The undersigned hereby certify that the colony of bees placed at our disposal by C. J. Gravenhorst, in one of his own hives, was found on examination to be in a healthy state, in good condition, populous, and with brood in all stages. After this examination was made, A. Lambrecht inserted, near the brood, a comb containing fermenting pollen and honey. The hive was then placed in the care of Mr. Gravenhorst, with the privilege of placing it half a league distant from his own apiary.

(Signed.)

C. J. H. GRAVENHORST,
H. HERBST,
HENRY OPPERMAN,
H. WIEDENROTH.

When the committee again met and examined the colony, opinions were divided as to the existence of foulbrood in it, and the decision was therefore postponed for a month, to await the further development of the virus, if it ex-

isted; or the effect produced by the additional fermenting pollen inserted by Mr. Lambrecht, as shown by

CERTIFICATE No. 2.

BRUNSWICK, April 24, 1869.

This day the above-named committee, accompanied by Mr. Lambrecht, repaired to the place where the experimental hive stood, and on examining the colony, regarded it as being only in an incipient stage of foulbrood. Though some dead and some suspicious-looking pupæ were observed, the committee was divided in opinion respecting the existence of foulbrood. This induced Mr. Lambrecht to insert a second portion of fermenting pollen and honey, and to desire permission to insert also two frames with old combs; which Mr. Gravenhorst was commissioned to do.

Signed by the Committee.

On a re-examination of the colony at the next meeting of the committee, all doubt as to its foulbroody condition appears to have been dissipated. It was evidently suffering from the disease in a highly aggravated degree; and the committee so state in their

CERTIFICATE No. 3.

BRUNSWICK, May 23, 1869.

This day the undersigned re-examined the experimental colony. In the two old combs inserted on the 2d of May, they found cells with perforated and also with unperforated collapsed caps; and from these, when opened, a viscid, fetid, brownish-grey matter could be drawn; and the committee were fully convinced of the existence of foulbrood—especially as putrid larvæ were also found in the newly built drone comb.

Signed by the Committee.

The experimental hive thus found to be infected with the disease, was now turned over to Mr. Lambrecht for restorative treatment; and on the 27th of July the committee re-assembled, to ascertain the result of Mr. Lambrecht's cura-

tive process. On a minute examination, the colony was declared to be again entirely free from the disease and in a prosperous condition. This appears from the committee's

CERTIFICATE No. 4.

BRUNSWICK, July 27, 1869.

At nearly four o'clock, this afternoon, the Investigating Committee met to examine the experimental colony. The combs were taken out separately, and subjected to repeated minute inspection; and to make the examination most thorough, the bees were brushed from the combs, and every cell inspected. According to our best knowledge and belief, we found the colony populous, nearly ready to swarm, with queen cells prepared for capping, and the whole colony in such excellent condition that we could pronounce it entirely free from malignant foulbrood.

(Signed.)

H. WIENROTH,
H. OPPERMAN,
C. J. H. GRAVENHORST,
H. HERBST.

A neighboring beekeeper, Mr. Ahrens, apprised of the intended proceedings, also attended the meetings of the committee, participated in the examinations, and gives the following statement of what took place:

"Feeling great interest in the experiment prosecuted by Mr. A. Lambrecht, to cause and cure foulbrood, I attended the examination of the experimental colony, when it was found infected with foulbrood in the highest degree. I was again present to-day, when it was re-examined by the committee and pronounced perfectly cured. The colony was nearly ready to swarm, and in all respects in admirable condition.

(Signed.)

"C. AHRENS,
"Practical Apiarian."

"BRUNSWICK, July 27, 1869."

In addition to the foregoing, Mr. Gravenhorst, a member of the committee, himself a highly intelligent and experienced apiarian, and originally disinclined to accept Lambrecht's theory of the origin and nature of foulbrood, communicated to the *Hanover Centralblatt* the following more detailed account of the action of the Committee and of Mr. Lambrecht's process for the production and cure of the disease. It was written before the final report or decision of the committee was made; yet manifestly under the conviction that a perfect cure had been effected:

"It is well known to the reader that at the fall meeting of the Salzgitter-Brunswick Union, I expressed my readiness to place one of my colonies at the disposal of a committee this spring, to test Lambrecht's theory of foulbrood. Accordingly, when the appointed committee (of which I am a member, and two members of which are practical beekeepers,) met on the 1st of April, I selected for them a strong colony, the bees of which covered six frames in a hive built two-thirds full, though its supply of honey and pollen was quite limited. After the com-

mittee had thoroughly examined this colony and pronounced it entirely healthy, Mr. Lambrecht introduced in it fermenting pollen mixed with honey, and the hive was then removed to a place half a league distant from my apiary.

"The second examination of this experimental colony was made by the committee on the 24th of April. Lambrecht and Herbst regarded it as being in an incipient stage of foulbroodiness, whereas Wiedenroth, Opperman, and myself were constrained by our convictions to regard it as still in a healthy condition. Wiedenroth directed his attention mainly to the drone cells, in which, according to his experience, foulbrood usually first manifests itself; whilst I could not allow myself to admit the existence of the disease until I saw all the indications of it, as I find them stated in the writings of acknowledged authorities. Lambrecht then requested leave to insert two frames with old comb. This was done on the 25th of April, and next day eggs were discovered in the cells of these combs. On a revision on the 20th of May, I discovered the first decided symptoms of foulbrood, in the cells of these old combs, some of which still remained capped, though from others young bees had emerged. Minute perforations were visible in the collapsed covers of most of the cells still closed; and when one of these cells was opened a brownish-grey, viscid, fetid matter could be drawn out. Hereupon I called a meeting of the committee, which assembled on the 23d of May. On examination, putrid brood was found in the drone cells also, and the colony had consequently to be regarded as foulbroody. But, that no hasty decision might be made in a matter so important, the essay to cure the colony was, at my instance, deferred to a future day, as I wished previously to satisfy myself fully that we had really before us a case of contagious foulbrood. Thenceforward, beekeepers who visited me, and many of whom were acquainted with the disease from sad experience, were taken to see the experimental colony; and all of them were satisfied that foulbrood existed therein. Still not content myself, and desiring to obtain absolute certainty if possible, I requested Mr. J. of Baden, who I knew was troubled with foulbrood in his apiary, to send me a piece of infected comb; the appearance and odor of which, when received, were in no respect more marked than those of the infected combs in the experimental colony. There were diseased, collapsed, and perforated cells interspersed among others still healthy, and putrid larvae among others not affected by the disease. Verily, a foulbroody comb presents a checkered aspect, grievous to behold, and saddening to the heart of every beekeeper! Melancholy, too, is it to observe the persevering yet fruitless efforts made by a still strong colony to subdue and eject the insidious foe, by tearing out and removing the infected brood—while the disease is steadily progressing, the population daily diminishing, and the entire colony hastening with accelerated speed to its lamentable fate. If help be still possible here, thought I, it is high time to invoke it now. Lambrecht was accordingly invited to Brunswick, to undertake the cure of the diseased colony. He

came on the 17th of June. On seeing its condition, now thoroughly foulbroody, he exclaimed: 'Here extraordinary means must be resorted to. A week ago the cure would have been easy; now it will be more difficult.'

'The hive was then carried into a chamber. Mr. Lambrecht took out all the combs, placing them, with the adhering bees, in a box prepared for them; shook the remaining bees out of the hive on a sheet, with which he covered the box when the bees were again united. He now employed some preparation to disinfect the hive, and remove from it the matter of disease. To this end he placed live coals in a dish, sprinkled on them a mixture of various powders procured from a drug store, and inverted the hive over it. Though it was a very compactly constructed straw hive, and well coated inside with propolis by the bees, the fumes penetrated through it, and issued from every pore. Lambrecht then, by means of a syringe, wetted the interior of the hive with a liquid prepared by him, scoured it well, and furnished it with frames filled about three-fourths full with combs built last summer, placing between them a comb with honey. He next brushed the bees from the infected combs into the hive, fumigated them slightly, and replaced the hive on its stand. The foulbroody combs were then melted, though I retained a few small pieces as specimens.

'If Lambrecht succeeds, as we doubt not he will, in performing the second part of his assumed task—the cure of the foulbroody colony—as effectually as he did the first part—the origination of the disease, science will thereby have achieved for bee culture a triumph, the value of which cannot be over-estimated. None will know better how to appreciate its importance, than he who has had the misfortune to become practically acquainted with the devastating malady.

"C. J. H. GRAVENHORST."

"BRUNSWICK, June 18, 1869."

In a subsequent communication to the *Bienenzeitung*, Mr. Gravenhorst says that he and Mr. Lambrecht examined the colony on the 18th of July. Sealed worker brood was found in the newly built worker comb extensions; sealed drone brood in five combs, and from twelve to fifteen queen cells on three combs. In the lower part of the combs eggs and healthy larvae were seen in the cells with no further trace of foulbrood. The queen cells and drone brood were destroyed to keep the bees from swarming, as it seemed likely they would do so in a very few days; but on the 27th of July, when the final examination and report was made by the committee, three new queen cells, nearly ready to be sealed over, were found. Mr. G. refused an offer of four dollars for this experimental colony, and said he would hardly be willing to part with it for nine dollars, as it was in one of his best hives, and, being very populous, would probably gather considerable surplus honey before fall.

Healthy stocks almost always destroy their drones, as soon as forage becomes scarce.

[For the American Bee Journal.]

The Native Honey Bee of Australia.

I am indebted to Mr. F. Smith, the distinguished hymenopterist of the British Museum, for the following description of the native Australian honey bee, a nest of which reached me through the kind offices of Messrs. Veitch, of Chelsea. Although the bees were alive when shipped from Brisbane, in Queensland, they had evidently perished long before the termination of their voyage. This fatal result is, however, less to be regretted, since it is evident that their power of honey-gathering must be perfectly infinitesimal as compared with those of either of the European races.

T. W. WOODBURY,

"A Devonshire Beekeeper."

MOUNT RADFORD, EXETER, ENGLAND.

NOTES ON THE ECONOMY OF TRIGONA CARBONARIA, A STINGLESS HONEY BEE OF AUSTRALIA, WITH A DESCRIPTION OF THE INSECT AND ALSO OF ITS NEST.

The beautiful example of insect architecture received from Brisbane, in Queensland, Eastern Australia, is specially interesting. Judging from its structure, it apparently indicates the economy of a genus of bees intermediate between the hive bee and the well-known humble bee.

Hitherto we have possessed very little information respecting the economy of the genus *Trigona*. The females are unknown; the other sexes—male and worker—have been received from Brazil. The closely allied genus *Melipona* includes in the opinion of some authors, the species that I separate and retain in the genus *Trigona*. Of the former genus we possess a knowledge of all the sexes, and have ascertained that each community contains a number of females; in which part of their economy they agree with the humble bee. We may therefore expect to find the economy of *Trigona* similar in that respect; such, I have little doubt, will prove to be the case.

On examining the nest from Brisbane, we observe another particular in which the economy of the species agrees with that of the genus *Bombus*. Numbers of semi-globular receptacles for honey are found, some placed side by side, others over each other, and some suspended in the ramifications of the coral-like shaped branchings constructed over and above the proper nest, that which contains the combs of the hive. These receptacles may appropriately be called honey pots, and serve, I have little doubt, to contain all the honey collected for the requirements of the hive; no honey, so far as I can ascertain, being stored in the cells of the combs—these being apparently appropriated solely to the rearing of brood.

On making an opening at the back of the box that contained the nest, and against which it

was built, a sight of the combs was obtained. They proved to be arranged horizontally, with the mouth of the cells downwards, as in the combs of wasps. The arrangement of the combs, however, cannot be compared, in regularity and beauty, with that of the wasp.

No sign of honey in, or of there having been any in, the cells could be traced. All appeared to be appropriated to the rearing of brood. Such I also found to be the case in a large mass of comb from Panama.

Much still remains to be learned respecting the economy of these bees. The nest from Brisbane has thrown much additional light upon the subject; and will, I trust, stimulate entomologists, who visit countries where the genus *Trigona* is found, to investigate thoroughly the economy of these bees. All that is at present known amounts to little that is satisfactory, being principally grounded upon conjecture.

The nest of the *Trigona* from Brisbane cannot be looked upon as a perfect example of the structure usually built by that species. It was constructed in a situation forced upon the bees; consequently they had to contend with the difficulties of the situation.

The form of that part of the nest which contains the combs, is that of half a fir-cone; the flat side being placed against the back of the box. The external surface is very irregular, and consists of a multitude of flat overlapping layers, some of the larger ones being upheld in their position by upright supports or columns. Branching off in various directions from the external plates is an intricate ramification, closely resembling the roots of shrubs or plants; or perhaps most like the beautiful branching of corals. As the nest is increased in bulk in the process of building, the flat layers described serve as the foundation whereupon to construct cells. Some of the honey pots previously mentioned are suspended on the branches above the nest; but the majority are constructed in heaps, frequently over each other, at the base and outside of the proper nest; others in more regular order, side by side. An orifice is always to be found on one side, enabling the bees to obtain the honey stored in each. The general color of the nest is a reddish-brown. A portion of the old nest, taken with the bees and placed in the box, is nearly black.

The *TRIGONA CARBONARIA* is a small bee, smaller than the house-fly. It is coal-black and shining; it has on its face, on the thorax, and beneath and on its sides, a covering of very short down or pile. The tips of its jaws are obscurely reddish, the wings are clear and transparent, and the abdomen is glossy black.

F. SMITH.

In arts and manufactures, practice almost invariably precedes and moves in advance of theory. The latter comes limping along in the rear, scrutinizing facts, comparing observations, elucidating processes, and explaining results, in accordance with the existing state of science.—
DR. JAHNE.

—Those of our readers who have inquired about the temper of the East Indian bees—*Apis dorsata*—will obtain the desired information from the subjoined article.

[From the London Gardeners' Chronicle.]

Ferocity of East Indian Bees.

Many stories have already been related by "our Journal," illustrative of the ferocity of the large Indian honey bee, *Apis dorsata*. To these I now add the following:

The first is extracted from a note just received from an Indian officer, at present residing in my neighborhood: "In my last letter from India I hear that an officer of my regiment has just arrived in Cashmere, after a fearful march through Chumba, where he was attacked by a swarm of bees. He took off his coat, and tried to defend himself with it as long as he could; but the venomous brutes got around him, and he had to execute a retrograde stragetic movement, followed by the infuriated insects for four miles and a half, when his powers of running drill being exhausted, he had to give in and let them have their wicked will of him, the natural consequence of which was that he got fever very badly, and had to be carried into Islamabad in a jampan, constructed of branches of trees and grass rope. Not a bad story this of the gorgeous Himalayas! Sweet things, our Indian bees, are they not?"

Another Indian letter says:—"The wild bees of India are very dangerous customers, as they attack any animal that happens to disturb them; and it is even said elephants have died from the inflammation caused by their stings. Two years ago, in Agra, the R——'s lost both their carriage horses at the church door on Sunday morning, and the coachman was very nearly killed too. Fortunately the other people had all left, or it would have been much more serious. Something disturbed one of the nests in the church steeple, and the bees all settled on horses and carriage."

General Sir Andrew B. Waugh, late Surveyor General of India, who was on the Committee of the Geographical Section of the British Association during its recent visit to our ancient and loyal city, also informed me that these bees were the great enemies of tiger-shooters, for if by any chance, during their progress through the forest, the elephant happened to shake a tree in which was one of their nests, down would come the bees, and off would go the elephant crashing through the jungle in uncontrollable terror, whilst the overhanging branches swept everything and everybody from his back. On mentioning this to the writer of the note first quoted, he fully confirmed it, and described how on one occasion a gentleman, weighing at least fourteen stone, and therefore as remarkable for his bulk as his bravery, was discovered in a most unenviable predicament, clinging for dear life, with the wind knocked out of him, to a branch of a tree, some dozen feet from the ground, and from which he was afraid to drop, as much out of regard for his limbs as from dread of certain imaginary tigers, which he fan-

cied were prowling around him in all directions. After assisting him to descend from his uncomfortable perch, it was found that he had been incontinently deposited thereon in the course of an elephantine stampede, produced by bees.

T. W. WOODBURY,

"A Devonshire Beekeeper."

MOUNT RADFORD, EXETER, ENGLAND.

Ohio Bee-keepers' Convention.

Pursuant to arrangement, the bee-keepers in attendance at the State Fair, in Toledo, Ohio, met on the evening of September 15, 1869, and were called to order by the Vice President, Mr. J. T. Merriman. The Secretary being absent, Mr. J. T. Martin was elected Secretary *pro tem*.

The first question proposed for discussion was—"The practicability of artificial swarming." Mr. Merriman opened the discussion by explaining his method of propagating bees, or the advantages of artificial swarming. He recommended but one division of each colony in a season; and that not unless they are in a good strong condition.

Mr. Martin recommended spring feeding, so as to stimulate breeding, and by this means to get the colonies all good and strong, as early as possible; and by the time the raspberry blossoms open, artificial swarming can and ought to be resorted to by all bee-keepers who wish an increase of stocks. If cold or rainy weather should set in, the young colonies must be fed.

Colonel Leffel approved of artificial swarming and recommended the latter part of May or first of June, according to the season.

Mr. Wright agreed with the Secretary in his mode of treatment; urging bee-keepers to investigate the subject, and with little trouble they could so increase their stocks as to make bee-culture remunerative.

Mr. Benedict gave his mode of spring treatment, which was to stimulate breeding by cautious feeding; and so soon as the frames are well filled with brood, then is the time to divide, and not before.

Dr. Conklin agreed with Mr. Benedict, in the mode of treatment; but advised putting a division-board in the centre of a strong colony. The queenless half will then rear a number of young queens, which, when nearly ready to leave their cells, can be taken out and given to colonies that, by dividing, are left queenless.

Mr. H. M. Thomas, of Brooklyn, Ontario, would not think of keeping bees in any other way. Bee-keepers, to be successful, must learn the process of artificial colonizing. It is the only road to success.

Mr. Carpenter never made artificial swarms, and could not speak from experience. He was there to learn.

Mr. Gray believed in strong stocks; made strong artificial colonies by giving all the bees to the young stocks, and placing the old hive, with nothing but comb and brood, in the place of a strong colony; or, in other words, making three colonies from two. Do this about the

time nature says it is time for natural swarming. He recommended having fertile queens, or royal cells capped over, to introduce to young colonies.

The second question discussed was—"The best mode of introducing Italian queens."

Mr. J. H. Thomas, of Ontario, Canada, gave his experience, and recommended the following plan: *First*, have ready a shallow dish or cup-plate, with a wire gauze cover. *Second*, remove the black queen from the hive, and then empty two drachms of chloroform into the shallow dish. Put the wire gauze over it, and place it immediately under the bees; leave them thus twenty minutes, when the Italian queen can be placed either at the top or bottom among the bees, in perfect safety. No danger of injury to the colony; if the bees fall they will recover.

Mr. H. M. Thomas inquired under what condition of a colony it was most difficult to introduce a queen? After a general interchange of views between Messrs. Merriman, Martin, Wright, and Gray, Mr. Thomas gave an interesting account of the difficulty he had experienced in introducing a queen to a queenless colony having no brood.

He was of the opinion that the greatest difficulty would be found in colonies having fertile workers; or when the colony is queenless and has no brood, especially in the latter part of the season.

Mr. Wright related a singular sight he had witnessed in a queenless colony of his. He said he found as high as fifteen eggs in one cell, and believed that there were thousands of workers laying eggs in the colony. On one frame he discovered dozens of workers laying while he held the frame out of the hive.

Mr. Gray remarked jocularly that the Professor's *funnigree* would have to be used in introducing a queen to a colony in that condition.

Mr. Benedict would like to hear something about the honey-emptying machine.

None present had used it, except the Messrs. Thomas, and they recommended its use, especially when honey is the main object of the bee-keeper. The newest and tenderest combs can be emptied without injury, and returned to the hive; thus saving the necessity of building new combs.

Mr. Thomas remarked that the standard of bee-culture was higher in Canada than appearances indicated in Ohio; and extended a cordial invitation to all present to attend their Provincial Fair, to be held in London, commencing September 25, 1869.

Mr. Gray then exhibited specimens of bees from Mount Lebanon and the Island of Ceylon; also living Egyptian bees.

A vote of thanks was tendered Mr. J. B. Hoag, for the use of his parlor; whereupon the Association adjourned to meet in Cleveland, at the call of the Secretary.

J. T. MERRIMAN, President.

J. F. MARTIN, Secretary *pro tem*.

It would be interesting, could we learn how bees become informed of the loss of their queen.

Michigan Bee-keepers' Convention.

The MICHIGAN BEE-KEEPERS' ASSOCIATION met in the Board of Trade's Rooms, in Jackson, Michigan, on Tuesday, September 21, 1869, President Rood in the chair.

On motion, Messrs. Flanders, Baldrige, and Moon were chosen a committee to report topics for discussion.

It was voted that a committee of three be appointed to arrange for exhibition of honey and to judge upon the merits of the same. Messrs. Cook, Townley, and Beall were elected as such Committee.

A. F. Moon was appointed to make arrangements for informing people of our meetings.

The Committee on Topics then reported the following question for discussion:—"How can we prepare our bees for wintering the most successfully?" The report was accepted and the question discussed.

Mr. Moon, of Paw Paw, preferred out-door wintering; would place his hives on a box-platform and fill around them with straw. He would shelter his bees from the sun; otherwise they would fly when the weather was too cool for a return to the hive. Bees, in common with all animal life, require plenty of pure air. If well ventilated from below, he considers them safe. Close attention should be given to the bees in the fall, and the honey in the different hives equalized, the bees not having too much or too little. Twenty-five pounds is enough for a good colony; and no attempt should be made to winter any other. Some empty cells are necessary for successful wintering. Honey so thin that it would ooze through the cap was to be avoided. He thought bees never froze to death. The only requisite to life and health was plenty of food and air. He thought hiving dangerous, and hence looked on it with little favor.

Messrs. Marvin, Rood, and Flanders argued in favor of depositories, as by careful housing much honey would be saved; it being a principle in the economy of animal life, that more food is required to keep up the animal heat in a low temperature.

Messrs. Rood and Flanders would have a double-walled house; the walls being from fifteen to twenty inches thick, filled in with saw-dust. Would have pipes for ventilating above and below, arranged with valves so as to contract or expand the aperture, and so made as to admit no light. To accomplish this the upper pipes were long; the lower in the saw-dust filling about level with the ground, opening to the air at one corner, and to the room at the opposite corner of the house. By having the hive open above, all moisture would pass off. If thick walls would not keep the temperature at about 35°, a large snow bank should be kept near and appropriated, if necessary to keep the temperature from rising.

Mr. Marvin, of St. Charles, Illinois, thought a dry sandy cellar was good for wintering bees; yet he preferred to house as described above. With the emptying machine honey could be ex-

tracted if the combs were too full; and if the honey was too thick or too thin, it could be extracted, and by adding water, or by evaporation by heat, could be brought to the proper consistency. The amount of honey necessary for wintering depended on the number of bees, age of queen, and amount of young bees—a young queen and young bees requiring more honey. There should always be young bees present for the fall, also young brood.

Mr. Campbell, of Royal Oak, believed in housing. Old methods would not avail. To compete with progress in bee-keeping we must discard old ideas and be up with the times. He thought the time of box hives and out-door wintering was of the dead past.

Voted that our sessions be held at 7½ o'clock, morning and evening.

SEPTEMBER 22D.—MORNING SESSION.

Motion prevailed that the election of officers be made the special order for Thursday evening.

Voted that members only be allowed to compete for premiums on honey.

Resolution passed: That an annual fee of fifty cents be required of each member of the association.

The Secretary related a case of transferring a swarm of bees, filling all the frames, except one on each side, with combs some of which contained brood; and the bees all leaving the hive and going away.

Mr. Baldrige had never known such a case. Probably the bees were ready to swarm and did not lose the impulse. He would have all the empty frames on one side.

Mr. Marvin thought the bees had become too full of honey; and this, with the heat, caused them to leave.

Mr. Moon had known one or two similar cases. He thought it could not be heat, as there was abundant empty space in the hive. It could not be swarming, as there were no bees left in the hive. He thought they were offended at something, and would not stay. If bees were very plenty he would leave space in the middle of the hive.

The President remarked that you could tell from which hive a swarm issued, as there would always be young bees laying in front of the hive.

EVENING SESSION.

The Committee on Premiums reported in favor of two premiums of \$3.00 and \$2.00 on the first and second best honey, and a premium of \$2.00 for the best hive exhibited by members. The report was accepted, and the recommendation adopted.

Messrs. Campbell, McKee, and Wolcott were appointed judges of hives.

The Committee on Topics then reported the following questions for discussion:

- 1st. What is the best location for an apiary, and how should the hives be arranged?
- 2d. What are the merits of Alsike clover as a forage, honey, and fertilizing plant?

3d. Is the honey-extracting machine a success, and will it extract the honey and not injure the brood?

4th. Is the AMERICAN BEE JOURNAL worthy of support?

The first question was discussed:

Mr. Baldridge would exercise great care in the selection of a location for his apiary. Would wish for an abundance of the best honey-producing plants, as basswood, willow, white clover, dandelion, fruit trees, wild plum and thorn, and alsike clover. Would have his hives front southeast, so as to gain the earliest warmth of the sun. Would have the board on which the hive set not more than four inches from the ground, resting on 2 by 4 scantling. Would have his hives thus low, to permit easy ingress, and to avoid heavy winds. He thought hives should be six feet apart, and the stands should not be continuous, as the handling of one hive would thus disturb the others. A sheltering grove, to protect from the noon-day sun, is very desirable.

Mr. Moon would have his apiary surrounded by good pasture lands, as they were always near to flowers. Would have his stands at least a foot high, to protect his bees from toads, which greatly admired bee-diet, and were ever on the alert to gratify their taste. He placed his hives on a stake. Would have an alighting-board in front of his hives, always keeping the grass closely mown.

Mr. Peterman would keep his bees low—had never been troubled by toads.

The President kept a trough with water near his bees. To keep the bees from drowning, he put in cobs and changed them often enough to keep them sweet. He thought the hives should be 10 feet apart and of different colors.

Mr. Marvin thought the hives should be a good distance apart. He would save bees by keeping his hives low. We could cage our toads.

Mr. Campbell would protect his bees from west winds; and would have an inclined alighting-board reaching from the stands to the ground.

Mr. Beall would have his hives low, as he preferred drones to the king bird, which he knew to be a voracious feeder on both workers and drones.

ALSIKE CLOVER.

Mr. Townley had had one year's experience. Had a field of $4\frac{1}{2}$ acres, which commenced to blossom the first week in June, and by the 15th it was in full bloom. It was still in flower on the 22d of September. He cut from his field 19 loads of hay, from which he threshed 16 bushels of seed. His cattle would not feed on a red clover pasture, if they could get alsike. The hay, unlike red clover, is good after the seed is threshed from it; the stalk still remaining green after the seed is ripe. It could be threshed in a common clover machine.

Mr. Baldridge said it would live for days with the ground covered with water. His field was in blossom from the 1st of June until the 1st of August, and covered for the whole time

with bees. Bees would go for miles to obtain the honey from alsike clover. He thought it an admirable thing for the clover that the bees worked on it, as it was thus far more perfectly fertilized. He thought the clover added to both pasture and hay, as it imparted flavor. He regarded the present price of the seed as not extravagant, as a bushel would sow three times as much land as the same amount of red clover seed.

Dr. Conklin found it very valuable for honey, and said it must also rank first as a fertilizer.

Mr. Moon not only got a better growth than from his red clover, but found that it was preferred by his stock, especially his sheep.

Mr. Marvin said four pounds was quite enough seed to the acre. Difference in soil produced difference in size, and, with Mr. Baldridge, thought this would account for the difference of varieties as grown by Mr. Thomas. He said it would thrive well on dry clay land, where white clover would do nothing at all. He thought it better to harrow in the seed.

Mr. Wolcott sowed three pounds three ounces of seed to the acre. He purchased the seed from Mr. Townley. It did well, blossoming from the 15th of June until now, and was constantly covered with bees.

HONEY-EXTRACTOR.

Mr. Rood had tried the honey-extractor, and believed it next to movable frame hives as an aid in bee-culture. No one could appreciate its value till he tries it. No apiarian could afford to do without it, as the saving from the repeated use of comb, for storage, is immense. The quality of the honey is much better than when obtained by straining.

Mr. Baldridge said, by care to produce a slow uniform motion, the larvæ could all be left undisturbed, and the honey all taken clean from the comb. He could remove 100 pounds per hour. He had taken from a single hive, during the present season, 175 pounds of liquid honey, and forty pounds of box honey; and could have taken still more, such was the value of saving the comb.

Mr. Marvin said this machine would pay for itself, if only used with one hive for a single season. The honey would sell rapidly, as soon as known. With experience, one could throw out just what he wished.

SEPTEMBER 23, 1869.

Mr. Beall wished that, in some way, we might enlighten people on the subject of beekeeping. He believed if such a result could be accomplished, it would work much good, not only to individuals but to society.

Mr. Moon said all should send names of persons who would be interested in the subject to the BEE JOURNAL. They would perhaps subscribe.

Dr. Conklin would bring a little manual of bee-keeping before the people, giving a succinct view of the whole matter, and written in a style so clear, vigorous, and sprightly withal, that it would gain universal attention.

Mr. Baldridge thought that, by skillful management, the Association might be able to distribute such a work at a very cheap rate, if not gratis.

The Secretary thought this a matter of great importance, as the dissemination of truth not only aided industry and increased capital, but also led to higher intellectual attainments, and what was still more desirable, raised the moral tone of the people, and especially was this true in relation to truths connected with natural history.

Mr. Marvin said our Agricultural College was doing efficient work in this direction.

Messrs. Cook, Baldridge and Townley were chosen a Committee to give the subject consideration, and to confer with scientific men, and report a plan of procedure at next meeting.

The Association then proceeded to discuss the following question;—Can a country be overstocked with bees?

Mr. Baldridge said bees at St. Charles, Ills., work for five miles around; flowers were plenty, and hundreds of colonies might be kept.

Mr. Marvin advised killing half our stock. We could care for the remainder enough better. The honey and comb being given to them in spring, would stimulate to increased labor; and having comb already, they would early store a great quantity of surplus honey; and they would also breed faster. He would only kill if stands were too numerous and food unobtainable.

Dr. Conklin inquired why destroy the bees? We have plenty of food for all; and one dollar will furnish a hive of bees with all the food that will ever be needed to winter them.

EVENING SESSION.

The Constitution was amended so as to make the Executive Board consist of the President, and Vice President and Secretary, instead of the President, the Secretary, and an Executive Committee of ten. The Association then proceeded to the election of officers. E. Rood, of Wayne, wished to be excused from longer serving as President, on account of age and ill health. The election resulted as follows:

President—A. F. Moon, of Paw Paw, Michigan.

Vice President—H. Huff, of Jonesville, Michigan.

Secretary—A. J. Cook, Agricultural College, Lansing, Michigan.

Treasurer—R. G. McKee, Laingsburg, Michigan.

The Committee appointed to judge as to the merits of hives, awarded the first premium to H. Huff, who exhibited the Thomas Hive. This hive, in their judgment, being the most simple, most easily constructed, and most accessible to the apiarist, possessing also the merit of durability.

The judges on honey awarded the first prize to E. N. Shelk, of Three Oaks, who entered a large box of beautiful basswood honey in the comb. The second prize was granted to M. M. Baldridge, who exhibited a can of most excellent honey which was extracted by his machine.

FEEDING BEES.

Mr. Marvin used tight-bottomed hives, turning the honey into the entrance.

Mr. Baldridge preferred upper story hives, and would feed honey in frames or comb.

Mr. Moon thought it often paid to feed sugar. He dissolved five pounds of coffee sugar in one quart of water. Poor sugar should never be used to feed bees.

Mr. Mason thought it better to add more water, and then boil down. It made a better syrup.

The Secretary thought the best way was to equalize honey by changing frames.

The President and others thought the same, if there was honey enough to spare.

President Rood wished his swarms to have twenty-five pounds of honey, each. He took frames of honey from those that had more than this, and gave to them that had less.

Mr. Baldridge said he would only feed honey, and if there was none to spare, he would destroy some of his bees.

Mr. Moon thought it far more profitable to feed sugar and save all the bees.

AMERICAN BEE JOURNAL.

All who read this Journal spoke in the highest terms of its excellence; and it was the unanimous opinion that no beekeeper could afford to be without it. Many of the first apiarists present coupled this with "Langstroth on the Honey Bee," giving to both the highest meed of praise. The one the best periodical, the other the best treatise on bee culture, in the English language.

Upon inquiry it was found that more than eleven hundred swarms of bees were owned by members of this Association.

There were a large number of patent hives on exhibition.

The Secretary, on behalf of the Society, would thank Messrs. Rood and Baldridge for donating their premiums to the Association.

A. J. COOK,
Agricultural College,
Lansing, Mich.

[For the American Bee Journal.]

Bees and Hives at the New York State Fair.

MR. EDITOR:—While being at the State Fair at Elmira, I wished to learn what I could about bees and hives. There was not a great show of either.

Mr. V. Leonard, of Springfield, Bradford county, Pa., was there with a model of his National Bee Hive, movable comb, or non-movable, swarming or non-swarming, controlling worm-catching, and self-hiving invention.

Also, J. H. Graves, of Rochester, N. Y., with the Graves' hive. Of him I tried to learn something about the management of bees, and of the moth-miller. He said that "by breeding the moth under the hive, it cannot get into the

comb; and where the moth gets in the comb, the bees cannot get them out, and they will cocoon in the comb." That "the miller will lay and hatch a thousand eggs in the cocoon, and when hatched the worm destroys the bees." He stated also, that a "queen will not come out to pair but once, and if she does not meet the male bees on her flight, she will return and become a *drone laying queen*." I think this question will bear investigation. I wished him to tell me how the miller or moth paired. He said, "*they did not pair*." Is this according to reason or observation? Is there not male and female in all forms of creation? And is it not necessary for them to pair, to produce living beings of their own species? Can a queen or a moth produce life or living beings of their own kind, unless mated with the male? I cannot make the contrary of this comport with my reason or knowledge, and desire a more satisfactory explanation. Will beekeepers discuss the question?

The season here has been very unfavorable for bees.

J. H. HADSELL.

BREESPORT, N. Y.

[For the American Bee Journal.]

Suggestions and Theories.

RESERVE QUEENS.

MR. EDITOR:—In another article I promised to give you an original plan for keeping reserve queens.

I need not dwell on the many advantages to be secured by keeping on hand at all times a good supply of such queens, as it may be seen at a glance what a nice thing it would be, in all cases of artificial swarming, or in case of finding colonies queenless.

It would also be of still greater use to those who are raising queens for market. But the questions—"Can it be done?" and "How?" are what we want to consider in this article.

Before giving you the plan, I will give you an *idea* to meditate upon, when you have nothing else to do. I originate a great many *plans* and *ideas* which would perhaps lead to great discoveries (?), if they were only carried out—which is just the thing that I never get time to do! Therefore I propose that we have some responsible and capable person appointed or elected as general Bee-ologist or Apiologist, to work on the principle of the numerous State entomologists, and have him paid (by Uncle Sam, or some State Government, I suppose, as I don't know who else would pay him) a liberal salary; and then just let him experiment upon and carry out the new *ideas* that "we beekeepers" originate! Why, Mr. Editor, I have dozens of them already waiting for a trial! and I presume that there are many others all over the United States in exactly the same fix.

Now what I am going to give in this article is nothing more than one of these very *ideas*. It has never been tried, to my knowledge, and everybody is at liberty to try it as soon as he pleases!

First, then, I will tell you how the idea origi-

nated. When a second or a third swarm issues, it is often accompanied by at least two or three, and sometimes half a dozen or more, young queens. These queens, if left in the swarm, will remain there until killed or driven out by one another. The worker bees will not kill them, when they are all hatched in the same hive.

From this I reasoned that if each queen, with a few workers, were put into a separate cage, and these cages all introduced to a queenless colony, they would all be fed or cared for. Thus far I have tried, and it has worked well for a time. But these workers will not live forever shut in those cages. So to remedy this, I devised the following which is my plan.

Take, for instance, a Langstroth frame, say about eighteen inches by ten; or, rather, take one of the frames that you are using, let the shape and size be what it may—I simply give this size for illustration. Cut a piece of wire cloth—an article which every beekeeper should possess—into two strips, each eighteen inches in length by about seven in width. Tack one of these pieces on the middle of one side of the frame—that is, letting the frame extend above and below the wire one and a half inches. Now prepare fifteen slats or sticks, $\frac{1}{2}$ inch by $\frac{1}{2}$ (or the width of the end pieces of the frame); lay these slats edgewise upon the wire cloth, parallel with the end of the frame, one inch apart. If not enough divisions are thus made, each one can be again divided crosswise in the center, thereby doubling the number. Now tack your other piece of wire cloth upon this side of the frame, and you will have a frame full of queen cages. Each opening is to have a separate stopper, and your queen-keeper is ready for use.

When you get a lot of surplus queens on hand, put one queen and about a dozen workers into each cage. Now divide a hive, which this frame is supposed to fit, into two parts, by inserting a division board in such a manner that the smaller division be just large enough to contain three similar frames. Two of these frames are to contain honey and sealed brood, and are to be placed one on each side of your cage frame, and a goodly number of bees supplied.

The larger division of this hive is to contain a swarm of bees with a fertile queen. Then as often as the combs of the smaller division get empty, they should be exchanged with the larger or combs containing sealed brood. Or perhaps after these queens had been shut in company with these bees for a week or so, one of them might be liberated to supply the division with eggs. Why not? What are they going to do about it? The bees loose in this hive will feed the bees confined in the cages, and they will feed their respective queens! Of course the bees in each cage should be changed occasionally, as they might die! Or, what would be still better, make an opening to each of these cages five thirty seconds of an inch high, as spoken of by Mr. Langstroth and others, to prevent swarming ("Hive and Honey Bee," page 174, third edition.) This will allow the workers to go out and in the cages, but confine the queens.

I will again repeat that this is all *theory*, I not yet having had a chance to put it into practice. I would therefore not advise any one to practice it on a large scale with valuable queens at first.

If, after trying it, it does not work satisfactorily, just take your queens, *cut off their stings*, put them all together in a queenless colony, and fit on your queen guage. Then if they do not want to dwell together in sisterly love, *let them do the other thing!*

FACTORYVILLE, PA., Sept. 10, 1869.

I. F. TILLINGHAST.

☞ This matter of providing and preserving reserve queens has engaged the earnest attention of apiarians ever since the introduction of movable comb hives. Dzierzon early perceived its importance, and devised various modes of effecting it; and numerous expedients and experiments have been suggested or tried by others also. But nothing altogether satisfactory, and embracing the whole design, has yet been accomplished; and the proposition of our correspondent, we suspect, will be found to go no further than just to reach the real difficulty.

Queens, in any number may be readily raised; but it is not quite so easy to have them advanced to a serviceable condition, and preserve them thenceforward so as to be at any time available. Bees have comparatively little regard for, and not much attachment to, virgin or unfertilized queens; and if such are caged and confined among them, even in a populous colony from which its queen has been removed, they will in most cases be gradually neglected and soon die of starvation—though possibly one among them may find favor and be nursed as the pet of the community. We have quite recently known repeated instances where such queens were allowed to perish, though the workers to whose nursing they were consigned had plentiful stores in comfortable quarters. Hence we judge that the proposed queen-frame will prove to be of small service, if it be intended that young queens, still unfertilized, shall be kept therein even temporarily. Again, if the purpose be to confine and preserve queens already fertilized, other and more convenient modes of accomplishing that may be and are now employed; and we have ourselves been using a *block cage* somewhat similar. Such queens, individually caged and placed among the bees in a queenless colony, will at once be fed and well guarded by the workers, each speedily attracting her own special corps of adherents. Nor need the bees have access to the queens within their cages: intercommunion with their antennæ and probosces being all sufficient. We have kept them thus for months, five or six in one colony, suspended in their cages, in a row, between two frames—taking care the while to keep the colony well supplied with honey and maturing brood. But if one queen is left at large in such a hive or nucleus, or is subsequently released, those in cages will sooner or later be neglected and finally abandoned, or the bees and free queen swarm out.

There is then no difficulty, more than ordinary, in raising queens, having them fertilized,

and preserving them during the summer, so as to be always at command when required for supplying artificial swarms or queenless colonies. What is needed is some convenient and safe mode of wintering such reserve queens, *in numbers*, each caged separately, and the whole placed in one hive, so as to have them in readiness in the ensuing spring for the exigencies of the season. With extra care and trouble single queens have been and are wintered in small nucleus boxes. But that is too slow a process for these days of railroad rapidity and telegraphic speed. What is needed is some simple and efficient mode of doing it with a dozen or more, "at one operation," and with no greater trouble than is now incurred with one.—Ed.

[For the American Bee Journal.]

Notes from Central New York.

The honey harvest for 1869 has been, in this vicinity, a complete failure, owing to the cold and wet weather of the whole honey season from April to August. Nineteen colonies have given me only three swarms and less than thirty pounds of surplus honey.

Italian colonies have shown a very decided superiority over the black bees, during this poor season. They alone made any surplus honey, while the black colonies had, up to September 1st, but little more than enough to support the brood from day to day—some of them showing not three pounds of honey in the whole hive.

Brood has been abundant in all my hives, throughout the season; still the colonies have not seemed to increase in numbers, as they usually do in good seasons. More dead bees have been seen lying around on the ground near the hives and on the neighboring walks, than are usually noticed—not dead from disease, but apparently worn out with unavailing labor. I must confess to great disappointment, as I had confidently expected, judging from past experience, to take off from these nineteen stands, at least twelve hundred pounds of box honey. However, I hope for better success next year.

September 13, I had the pleasure of visiting the apiary of Mr. Langstroth, at Oxford, Ohio, where I saw quite a number of his splendid Italian queens—three of which I brought away and have successfully introduced into my own apiary. Mr. L. also opened one stock of Egyptian bees, without smoke or gloves, in my presence; and I must say that the little beauties behaved remarkably well, notwithstanding the bad reputation they have gained in Europe. To be sure they seemed to stand on tiptoe a little, with wings slightly expanded, ready to resent any insult, but not one offered to sting. The workers and queens are handsomer than the finest Italians I ever saw. I took home one Egyptian queen, just to try her.

While examining stocks that day, we found two instances of two queens in one hive. In the first case we found the old queen with clipped wing, apparently in perfect order, with eggs in the comb she was upon; and on the

next comb a young queen, certainly fertile and apparently laying. In the second case, we found two young queens, both fertile, not yet laying, but apparently on the point of beginning to lay. These were in a hive that had been used for raising queen cells, and from which it was supposed all but one had been removed.

I have just received from the bookbinder the first four volumes of the AMERICAN BEE JOURNAL, bound in two nice volumes. I value them very highly, and would not part with them for several times their cost. Can you, Mr. Editor, furnish another full set of the back numbers for a friend of mine, who has been a subscriber for a few months only?

Please accept the enclosed photograph of the subscriber, and the stereoscope view of his little apiary in which he finds so much pleasure.

Yours truly,

R. BICKFORD.

SENECA FALLS, N. Y., Sept. 21, 1869.

[For the American Bee Journal.]

The Rectangular Movable Frame hung angling.

MR. EDITOR:—I invented and made hives, nine years ago, similar to Mr. J. M. Price's hive, as described in the BEE JOURNAL, vol. 4, page 87. I made the rectangular frames, and hung them in the hives, precisely as Mr. A. V. Conklin describes the making and hanging the Diamond Movable Frame, in his patented hive, as stated in the BEE JOURNAL, vol. 4, page 186. I made the hive and frames, and hung the frames as he describes, with the intention of getting it patented. After using them five years, tinkering and altering the frames in various ways, to force or induce the bees to make their combs straight in them, I abandoned the use of them, and the idea of getting the hive and frames or the mode of hanging patented; for the reason that that mode of hanging the frames is the best to get crooked combs of any that I ever tried or ever saw tried. I sold out the hives and bees to beekeepers of the old school, in the township of Hudson, Summit county, Ohio, where they can be seen by any one who chooses, with the combs made in the frames so crooked that it is impossible to remove them, without cutting them literally to pieces.

Now, Mr. Editor, I will try to explain to you and the readers of the JOURNAL, the rule that my bees followed in making combs in rectangular frames hung angling to the plane of the horizon. My frames were made of triangular bars, as represented by Mr. Conklin. The bees would, as a rule, start two combs in each frame; one on the sharp under angle of each of the two upper inclined top bars of the same frame. These combs would be made by two sets of workers, and when worked near to each other one set would be curved to the right and the other to the left, and be fastened to the next frame adjoining. If perchance they started the comb on only one upper bar of the same frame,

they would as often curve the comb and fasten it to the opposite upper bar of the adjoining frame, as to the opposite upper bar of the same frame.

After learning this to be their rule for making combs in these frames, I tried to stop it by making a saw-cut down into the apex angle of the frame, and slip a piece of veneering into the cut, so as to have the lower edge of the veneer straight for two or three inches long and parallel to the plane of the horizon. I thought that by this device I could induce them to commence only one comb in each frame, and that one on the lower edge of the veneer; and from thence to follow down the two inclined upper bars of the same frame. Occasionally they would do so; but it was the exception, and not the rule.

Mr. Conklin says, on the same page of the JOURNAL, that the bees, in building comb, will follow down the angle of the frames, commencing at the upper part or angle, and the combs will be built straight in the frames every time: no exceptions. I say to Mr. Conklin (not doubting your statement) that if you have bees that know their duty to their owner and will do it so well, or if it is by some peculiar training of yours, that you are enabled to get such straight combs built in the frame every time, I would like to purchase some of your kind of bees, or get the secret of training them, so as to obtain the same results. I would pay bountifully for it, but nothing for your patent; for I claim that I invented, made, and used movable frames hung as you described yours, long before the date of your patent.

M. MILLER.

PENINSULA, OHIO.

[For the American Bee Journal.]

Five Questions.

MR. EDITOR:—Will some one please answer the following questions through the BEE JOURNAL?

In counting the "three yellow bands" on the full-blooded Italian bees, is the narrow strip next to the thorax included, or should they have three *besides* that?

What should be done with a good colony containing fertile workers? Could an unimpregnated queen, or a fertilized one, be introduced successfully?

Will bees with fertile workers build drone or worker comb?

What is the greatest age at which a queen can be or is likely to be fertilized?

And what is the average number of times a good bee-keeper will "go into" (open the hives and examine) his bees, in the course of the season?

J. W. G.

CHILLICOTHE, Mo., July 25, 1869.

Careful experiments have shown that pure air is necessary not only for the respiration of mature bees, but for hatching the eggs, and developing the larvæ.

[For the American Bee Journal.]

To Novice, on Wintering Bees.

NOVICE, in the October number of the BEE JOURNAL, expresses a vehement desire to get his bees through the coming winter. I have no experience in his latitude, and but little in this—and that only with bees on their summer stands. But that little has been completely successful the last few winters, or ever since I tried my plan. The very fact of my bees all getting safely through the last winter, with a few others belonging to my neighbors, that were put up on my plan, while almost all others left to themselves died, speaks in the highest terms of the efficiency of the method adopted by me.

I do not like the plan Novice contemplates, of putting up forty stands in two rows four feet wide and five high, as too many bees will get lost, in mild days, by missing their hive. I request him to try at least ten or twelve stands as I will suggest. If he fails, then condemn my plan; but if successful, then adopt it hereafter.

Move gradually the twelve stands until they are in a straight row, one foot apart, fronting south—others say north, but I prefer south. Then drive down stakes and board up planks as high as the top of the hives, at the ends and back of the hives. Take off the caps and honey-boards. Spread one or two folds of any sort of dry and clean woolen cloth directly over the frames; or any old woolen rags will answer, if clean. Then stuff the caps with hay, straw, or wood shavings, and put them on, leaving off the honey-boards. Next stuff clean, dry straw between each hive, at the ends and rear, about as high as the hives, only leaving the fronts open. The straw between the hives should project out about six inches in front, so as to break the force of the wind. Also, at the west end there should be plank set up four or five feet high and long, as a protection against fierce winds. Cover the whole with boards, so as to exclude dampness. In cold spells contract the entrance to half an inch. Be careful, also, to fix the front entrance so that snow cannot block it up. All this should be done against November 15. I do mine sooner.

Though my hives generally set in rows, from three to four feet apart, I have but little trouble in moving them together, and back again in the spring. I have already commenced moving mine together; and on examining them to-day, October 6, I find them all in trim for winter, except one stand, a late thin swarm in a box hive, which will require a little feeding.

We had a very dry spell of six or seven weeks continuance, in the latter part of July and in August, which destroyed all bloom and burnt up the grass, but seasonable rains in the last of August and first of September, brought on a fresh supply of bloom on the smartweed and several others; for it is a fact that the bees were hard at work two weeks in September, and filled their hives with brood, but gave us no swarms, nor any surplus box honey. During this time I raised some very beautiful Italian queens, from one which I had just received from Aaron Benedict, but which I was unfortu-

nate enough to lose by a careless accident. The nucleus I had put her in, sat on top of another hive, and while removing a small frame with eggs and brood to rear queens, I dropped the frame, spilling all the bees in front of the hive below. I looked to see whether the queen was among them, in order to put her back; but not finding her, concluded she was not on that frame. But, to my great regret, the next time I opened the nucleus the queen was evidently gone, as there were five or six queen cells started. From these I raised five fine queens, and have already introduced them safely.

LOWELL, KY.

R. M. Argo.

[For the American Bee Journal.]

On Last Season, and Wintering.

MR. EDITOR:—I reside twelve miles east of NOVICE. He, in company with another bee-keeping friend, visited me last week. His bees have done exceedingly well during the season just past (producing forty-eight from eleven stocks and ten queens, as I think he told me, and heavy at that), comparing his Italian bees with the black bees in this or his own vicinity.

I have tried this summer to build up artificial swarms, giving them four sheets of full combs of honey, young bees, and eggs, from other hives, removing a strong stock, and setting the new one in its place. With all that advantage they came very near being a failure. The Italians must be a superior bee, or they must have had great advantage in location.

About three hundred stocks are kept in our township, which is five miles square. Box honey, by wholesale, sells at thirty-four cents per pound in our market. A few boxes are filled, others are half full, but the majority have nothing in them. We had white clover in abundance, but the bees have not gathered much from it; they gathered more from red clover. We had no basswood honey this year, and there was very little buckwheat sown. Natural swarming, with only few exceptions, and only about one half of the old stocks swarmed. The old stocks are in fair condition, while the young in general are poor for wintering. The fore part of the season was cold and wet, with meagre secretions of honey; the latter part rather better. The bee moths worked like Wall street bulls. The bees were slow in killing off their drones. My bees were in prime condition last spring, but did not realize half as much cap honey as last year. I have used and seen used a great many different kinds of hives. The Langstroth ten inch deep hive I prefer to all others, when you winter in a repository rightly constructed; but for out-door wintering from ten to fifteen inches deep is better.

During the last ten winters I have kept the principal part of my bees in a house, with the best results. House eleven by twelve feet, and six feet six inches between floors. Walls ten inches, filled in with sawdust, and clapboards outside and sealed inside. Double door in one end; window in the other; shutter inside, and in winter the space between window and shutter

filled with hay or straw. Upper floor and lower; in winter covered with sawdust. Ventilator in lower floor, with a six inch stove pipe through middle of upper floor, extending up near the roof, with elbow on top to keep out light—making considerable draft; and when door and window are closed, the repository is as dark as a dungeon. If colonies are strong with bees and honey, or only moderately so with a fertile queen, and well ventilated, I would not be afraid to warrant them to come out all strong in the spring, having no disease whatever. I often throw open the door at evening, closing it in the morning. Keep bees in a dry, even temperature, say from 35° to 42°, and you will not have a suffocated, smeared, stinking mass of dead in the spring. Bees, like man, want God's pure fresh air. We must remember that the larger the number, the greater the heat. Build large, ventilate. Read Gallup on wintering. He is very near right on that, according to my experience. I have had two stocks, one twenty-two and the other twenty-three years old, in well made and painted hives. They always had plenty of ventilation: stood at the west end of a house, without protection, except loose boards laid on top. They always did well, till one of them died, and the other was transferred. Cold does not kill old strong stocks of bees in our climate, if they have plenty of honey over them. Best wishes for the AMERICAN BEE JOURNAL and its readers.

THOMAS PIERSON.

GHENT, OHIO, October 2, 1869.

[For the American Bee Journal.]

Loss in Wintering, and the Bee Cholera.

I propose to speak in general of the reasons for the loss of almost every stock of bees that dies in winter; and in so doing I think I can unearth an idea or two, that have never been in print before—at least I have never seen them so myself.

On page 149 and 150 of the BEE JOURNAL, vol. 4, Mr. Truesdell, of Warwick, Canada, says—"On looking for the cause, I found this hive, which was a well made one, closely sealed above, and the melted frost had run down and frozen over the front entrance until it was entirely closed. So, evidently in a changing temperature, their own breath had been the means of sealing them up to destruction. My bees need ventilation."

He should have said—"My bees, in winter, need upward ventilation."

The custom of many beekeepers is to stop up, with mud or some other material, every crevice about the top of a hive (I speak of common gum and box hives), at the approach of cold weather, for the purpose of protecting bees against intense cold. This is a sad mistake in practical beekeeping. Better far be opening up small crevices about the upper part of the hive, for the escape of dampness caused by the breath of the bees in winter; and as soon as the bees begin to fly in the spring, stop up every crevice

or space, however small, through which heat could make its escape from the hive, in its natural upward tendency. The first thought of the inexperienced is directly the reverse of this; and really, without experience, it does seem that, in order to keep bees warm in winter, the hive should be perfectly air-tight at top; and to give them ventilation in warm weather, it should have open spaces about the top, to permit the air to pass through the hive. But the difference is in this, that the bees will themselves, in warm weather, ventilate the hive below, at the place of ingress and egress; which they are unable to do in cold weather. Except in comparatively only a small number of cases, where the colonies are strong and vigorous, the trouble is not in the temperature of the interior of the hive, in cold weather, unless perhaps it now and then thaws and the water drops down among the bees and makes them damp. In such case, if there is a sudden change again to intense cold, they sometimes freeze in consequence of the dampness. Sometimes too it occurs that the entrance is closed by ice formed from condensed vapor running down, freezing there, closing the entrance, and causing the death of the bees by suffocation. But in my experience I have lost more bees from the two other causes, than from all the rest combined.

There is a principle in nature, in regard to the breathing of air, that when we have breathed all the air in a given space (for instance an air-tight room) its life-sustaining power, which we understand is the "oxygen" is consumed. Then nothing that breathes can live inside of this space. It is somewhat on the principle of a man going into a well, where what is called choke-damp exists. Men who have been in such places and escaped with life, invariably testify that there is not the slightest pain felt, but a sensation of pleasant weakness and a disposition to fall asleep. The writer once knew three young ladies to place some live coals in a sugar kettle and carry it to their bed-room (from want of a stove) for the purpose of warming their room, which was not ventilated. They went to bed, leaving the live coals smoldering in the kettle. Some time in the night they all died, without even the appearance of a struggle. This same separation of the life-sustaining part of the air—the oxygen—by the use of burning charcoal in a room without ventilation, had taken place; or if the room had been very small and air-tight, they would have died in the same manner, when they had breathed out all the oxygen.

Before we define our position thoroughly, we will admit that there is a tendency in the law of nature to an equalization of temperature, and to purify the air by its own effort to produce commotion. But there seems to be in some cases, perhaps only apparently, an inability to perform this function, resulting in inaction or stagnation. A failure to produce this equalization of temperature in a hive, and supply the bees with pure air, leaves them to go to sleep in death. This generally occurs in hives that have plenty of honey and bees. In fact, in almost all cases where you find a large number of bees in a hive after they are dead, their death was

caused in this way, especially if the hive have a great quantity of honey in the combs. The more honey there is left, the more certain you may be that their destruction was brought about in this way. The oxygen of the air being exhausted by an excessive number of bees crowded into such a small cubic measurement of air, in thin layers between the combs filled with honey, or having comparatively few empty cells. The remedy is upward ventilation. Of course you do not want a brisk current of air passing through the hives, when wintered on their summer stands.

There is still another reason why a great many bees die in winter. I have been traveling through southern Illinois and Indiana, where the *Bee Cholera Epidemic* is said to have raged last fall, and propose to give you my version of it. I am aware that others will differ from me, but think that time will demonstrate the correctness of my position.

The first appearance of the many hives I examined (and which amounted to almost hundreds), was that the hives were without exception filled with honey to the very bottom, or showed signs that the honey cells, where any large number seemed to be open, had been torn open by robber bees. Robbing bees, in their great haste to obtain honey, leave the outer edges of the cells they open very rough and ragged. An expert can easily tell how the honey was extracted from any piece of comb.

I also learned on inquiry that the bees had annoyed every grocery store that contained even sorghum molasses, and in their anxiety, impelled perhaps by the pangs of hunger, had, in the fore part of the summer, gone into the kitchen and pantries in which there were sweets of any kind. This state of affairs existed for somewhat more than a month. Of course the bees, where such hunger existed, could not rear any brood worth mentioning.

The reader will here call to memory the fact that ninety days is, in the working season, the lifetime of the worker bee. He will also remember that for thirty days, up to this period, no young brood was reared. I also learned that such a honey-dew, as occurred then, was never known in those parts before. One man even affirmed that, in driving up his cows in the morning, his clothing became (to use his own words) quite *sticky*. Others told me such unreasonable stories, that I am unwilling to communicate them. I found that this condition of matters existed in that locality for over a month. Ten days being sufficient for a good stock of bees to fill its combs, where surplus honey exists in such enormous quantity, the bees immediately filled their hives so full that no empty cells remained for the queen to deposit eggs in. The change from intense want to excessive surplus being so sudden, the queen did not have time to supply the cells with eggs before they were filled with honey; and they remained so for perhaps sixty days or longer. Now add the thirty days that the colony could not rear any brood previously from the absence of honey in the flowers, to the sixty days that the combs were so full of honey that the queen had no room to deposit eggs, and you have ninety days, the natural lifetime

of the worker bee in the working season. Some men said the bees all left; others that they all swarmed out. But when I asked them whether they had seen them swarming out preparatory to leaving, the invariable answer was, No! When I asked whether any of the family had seen them swarm out and leave, the answer was the same—though they would insist on it that the bees must have done so, as they were all gone. The manner of their disappearing is evidence that the expiration of the term of the natural life of the bee passed them off the stage of life, slowly and gradually till all were gone. In a great many cases a small number of bees remained up to the first cold frosty night; and in some instances, a larger number remained till near mid-winter, and then died. Some owners saw their bees crawling out of the hive on warm days late in the fall, drop down to the ground, and die. In not one instance in a great number was any large quantity of dead bees found in the hive. So much for the *Bee Cholera*.

The same principle holds good, if the bees fill their combs so full that there is no room for the queen to deposit eggs, for thirty days. Then your hive, so far as numbers are concerned, is one-third gone to destruction; and if the cells are so filled for sixty days, that the queen has no room to deposit eggs, then your hive is two-thirds gone to destruction, and will perish soon after, if left unaided.

The second cause, then, of bees dying in winter, is because the cells were kept so filled with honey or pollen for say sixty days, that your colonies go into winter quarters with only from one-third to two-thirds of a usual sized swarm in a hive. The bees, in consequence of their diminished numbers, not being able to withstand the rigorous cold, freeze to death, leaving the hive filled with honey. Sometimes it occurs that a colony loses its queen in summer, and by the time the cold weather approaches the bees are few in number and perish in the same way; or they may not hold out till winter, the moth destroying them previously.

The remedy in all such cases, is the means adapted to intelligence, ability, and will. In the first two cases, the surplus honey must be taken out of the way of the bees, without if possible producing a vacuum above them. Boxes on the top of a hive are an intolerable nuisance, for three reasons: first, because of the production of a vacuum; secondly, because of the loss of time in getting the bees to work readily in them; and thirdly, because of the *loss of comb*. Now, my bee-keeping friends, do not let me astonish you, but I mean what I say that such boxes are an intolerable nuisance. Our system of management has to undergo the ordeal of rigid critical investigation. Bees will produce more than double the amount of surplus honey, if it be taken from the main hive, and the empty combs returned below instead of above, for the double purpose of saving the comb and furnishing empty cells below, precisely where the instinct of the queen teaches her that the eggs should be deposited. As the brood that has been elevated hatches, the empty cells in the upper part of the hive are filled with honey by the bees, according to their instincts,

and the combs may then be revolved. The mere art of emptying a comb and returning the same, and allowing it to occupy the same position it did before emptying, does the queen no good service for the purpose of depositing eggs, for the reason that the comb emptied where the frames are not combined one above the other, only furnishes room for storing honey. We must have means by which we can keep the colonies strong, by furnishing empty cells below the brood.

MONROE, IOWA.

J. W. SEAY.

[For the American Bee Journal.]

Wintering Bees.

MR. EDITOR:—I this morning got down my ink and paper, thinking to write a short article for the JOURNAL, on wintering bees. I also took down a bundle of BEE JOURNALS, and I declare I got so much interested in looking over them, that I almost forgot to write. It does seem to me that the BEE JOURNAL is becoming more and more interesting all the time. But this is not coming to the point. What I want to write about is, how I have wintered my bees. I have tried various ways, but my best success was by placing them in my cellar. We frequently hear some of our friends complain through the JOURNAL, that their bees did not do well in the cellar; but I must say that mine have always exceeded my expectations.

Last winter I put a partition in my cellar, which made a place about fifteen feet square on the ground and about six feet deep. In this I placed some seventy stocks, most of which wintered finely, though they became very uneasy in the latter part of February, on account of a warm sultry spell of weather. I opened the windows and door at night, which at first only seemed to make them more uneasy; but after the door was kept open for some time, they became more quiet. After two or three days of warm weather, it got cold again till some time in March, when it became so warm once more that I was obliged to take them out in a drizzling rain. The bees flew rapidly though it was raining, and I think a considerable number were lost. Nevertheless I think I never saw stronger stocks than most of mine were last spring, commencing to swarm by the middle of May. I would remark here that I discovered, on placing my bees on their stands, that they remembered their old locations, for whenever we misplaced a hive the bees immediately flew to their former locations.

As to the manner of placing the hives in the cellar. I use the Langstroth hive, and mostly take off all the surplus boxes, leaving part of the holes in the honey board uncovered; but last winter most of them remained on the hives. I may say here that I think a set of empty boxes, not sealed up tight would give all the ventilation necessary. As a general thing, I consider it more important to have the cellar well ventilated, than giving too much to the hive. I carried quite a bed of straw in the cel-

lar, to absorb the moisture, in addition to having my cellar well ventilated. Well, says some one, how do you manage to ventilate your cellar? I ventilate mine by a seven inch stove-pipe running from the cellar up to the flue at the roof of the house; and, by the way, I think it wrong, in this age of improvement, that a good house should be built without ventilating the cellar properly; as I deem it very important both to the health of the family and that of the bees. It matters not how you ventilate; that is, whether it is by a stone, brick, or wooden flue. A ventilator might be made of inch lumber that would answer very well, though you could in that case not use any fire. In my cellar I built up a small furnace with brick and set my stovepipe on it. Thus I can put fire in, if I wish, and expel some of the dampness out of the cellar.

As for placing my hives so as to be able to see such stock of bees as Mr. Gallup suggests, at any time in the winter, I have not room enough for that. I piled the hives on top of each other till I had my small apartment as full as I could stow it, leaving only one passage way to the door. With my cellar ventilated and my bees placed in it in this manner, they are comfortable. By removing the caps of the hives I might stow in more stocks; but I fear they would not be so healthy. If the necessary ventilation is given to both cellar and bees, I think you can safely pack your cellar as full as it will hold. I prefer to set them up a little way from the ground; though if the cellar is very dry and you litter it well with straw you may set them on that without risk of damage. I also have an outside cellar door, which is serviceable when carrying your hives in or out. The doorway of this is also packed full of straw. Now, when my cellar is thus packed full there is no chance to see in what condition the bees are, except perhaps some of those in the outer tiers. I have had my bees in the cellar four months at a stretch, and they did well.

Let me now also suggest an idea about wintering bees on their summer stands; and that is simply by placing the hives in a box large enough to enclose the whole hive and leave space all around. A common dry goods would answer; and I am satisfied it would pay expenses. I have two stocks or swarms that I placed in such boxes this summer, and think it will be just the place for them in winter. But, inquires some one, how do the bees get into your hive, if you enclose it in a box? You must of course make an entrance corresponding with the entrance of the hive. Then we can pack straw or any warm material around the hive, and make the bees as comfortable as may be desirable. I tried these two swarms as an experiment, and I think it has worked well; the one being a prime swarm, and the other a second swarm—and weak at that, yet it has properly filled its hive and is very heavy. The prime swarm has also done well, filling the hive and most of the surplus boxes, and building a small comb outside, though we have had the poorest kind of season here for bees, it being wet most of the time.

S. MAY.

EDDYVILLE, IOWA, September 14, 1869.

[For the American Bee Journal.]

Novice.

DEAR BEE JOURNAL:—A few months ago we mentioned, in one of our articles, that one of the subscribers to the JOURNAL came quite a distance to see how artificial swarms are made, and when asked if he did not understand the plans given in the JOURNAL, replied that he had not had time to read them. (We feel secure in saying all this about him, as he won't have time to read it.) Well we did not think at the time that anybody would ever say that had we read the JOURNAL as carefully as we should, we would not have asked the question in regard to wintering that we did in the last number. But such we really believe is the case, and we hereby notify all correspondents that we don't want to be told of it, as we know it now already!

The fact "leaked" into our head in this wise. The next Sunday (if it is wrong to read the BEE JOURNAL on Sunday, we really can't help it), we gathered all our JOURNALS from No. 1, vol. 1, up, and prepared ourselves to collect and classify all that was said on the subject of wintering. (Do you know, Mr. Editor, what a pile of valuable experience those same JOURNALS furnish on that subject?) Before we could get our materials in order, we began to wish that our JOURNALS were bound; but as we wanted them "right off then," we, after placing each volume in proper order, pushed some large pins through the top, bottom and middle of the margin of each one, and, after clinching over the point, found we had a very fair book for our own use, (they might not do to lend).

The index we find very convenient, and long before we got to Mr. Gallup's excellent article on page 129, January number, we understood that it was quite as desirable, or more so, to keep the warm rain away from the hives, as to keep the cold out; and in the article just mentioned Mr. Gallup finishes the subject, at least to our notion.

So we too are going to build a house for our forty-seven (we have concluded that we would rather have forty-seven than forty-eight) swarms; and as we may be so unfortunate as to have a hundred some time, we are going to make it large enough for that number.

Mr. A. C. Atwood, on page 78 of the present volume, describes almost exactly what we have determined on.

The pile of boards, debris, &c., which Mr. Gallup mentions when attempts are made to fix up such structures cheaply, has made us feel that we must have a nice house, where we can take our friends. We are going to have the boards planed and painted, and some kind of neat cornice; and would like some one to suggest an appropriate emblem to top it off with. We want a large window and a large double door, so that our "help" won't bump the hives against the door-posts, as such a catastrophe might be harassing to our feelings. And we want it clean and nice enough inside, so that we can persuade our "better half" to come in and "take a turn" at our mel extractor in the

summer time. Ten inch sawdust walls will make a nice cool place in hot weather.

We find a statement in the JOURNAL that a house large enough for one hundred stocks, will not cost over forty dollars. Why, Mr. Editor, our carpenter thinks it will cost about two hundred dollars; but as the bees we lost last winter were worth more than that, we say let it cost.

We have been to pay a visit to a friend in an adjoining county, who built a house we think fourteen years ago; and he says he never lost a bee in it while they had honey left. If our house will serve to do that, we shall be well satisfied. Our whole forty-seven stocks have got nice queens, and we are sure we can give them honey enough, and then stand out of the way.

Now after all that has been said on the subject, we should like to ask the following questions. Mr. Gallup's opinion would be quite a favor.

How can the most honey be realized, say with the mel extractor, in a season? By absolutely preventing swarming? By an increase of one half, by early artificial swarming? Or, by doubling the whole number of strong stocks, as mentioned?

Mr. Jasper Hazen's figures on the subject we cannot admit, as we must think, even if it seem harsh, that he grossly if not wilfully misrepresents the matter, more with an idea of getting people to inquire about his hive, than of communicating one real fact.

Our experience would be that a proper increase of stocks, made early in the season, in a locality not overstocked, would give more honey, than an absolute prevention of swarming.

We forgot to add that we intend in the spring, as soon as our bees are removed from their house, to fix in it a suitable stove and make some further experiments on artificial incubation. Such a room once warmed up, we think, would keep warm a long time.

Now, friend Argo, don't let your fifty-two stocks play out wintering, or we shall get that queen yet!

Hurrah, for the winter! Our naturally hopeful disposition begins again to reassert itself. Will our friends on the subject at least give us their sympathies, and in return receive those of

NOVICE.

A large fruit grower says that his cherries are a very uncertain crop, a cold northwest storm frequently prevailing when they are in blossom. He had noticed, that if the sun shone only a couple of hours, the bees secured him a crop.

In winter, if bees are kept in a dark place, which is neither too warm nor too cold, they are almost dormant, and require very little air; but even under such circumstances, they cannot live entirely without it.

A sweaty horse is detested by bees, and if assailed by them is apt to be killed—being in such case, a very helpless animal.

THE AMERICAN BEE JOURNAL.

WASHINGTON, NOVEMBER, 1869.

The Foulbrood Question.

On another page will be found a full account of the proceedings of the Committee appointed by the Salzgitter Beekeepers' Union, in Brunswick, to test Mr. Lambrecht's ability to cause and cure foulbrood in a colony of bees. The result, according to the statement of the Committee, shows that Mr. L. really performed what he professed himself able to do; and that this formidable disease is now at length brought within the control of medical or rather chemical science.

But, doubts have been expressed in distinguished quarters, whether the test instituted was in reality a fair one. The disease, produced in the colony under consideration, and again cured by Mr. Lambrecht, it is now alleged was an *artificial* one, which may indeed have resembled foulbrood in some of its more prominent manifestations, without being in fact the genuine malady, such as originates in or from natural causes. Hence it is inferred and suggested that the cure was simply empirical, and is at most adapted only to cases like that in hand. Conceding that this may be so, the fact that it is so still remains to be demonstrated; and if that were done, it would not be an occurrence very marvellous in medical science, where theory and practice are so perpetually fluctuating, that what is lauded to-day as a panacea, may to-morrow be denounced as mere worthless charlatany. 'Tis even so. Goethe says—

"Der Geist der Medizin ist leicht zu fassen :—
Ihr durchstudirt die gross' und kleine Welt
Um es am Ende gehn zulassen,
Wies Gott gefällt!"

Of course, under such circumstances, we would not undertake to contend, as against high authorities, that Mr. Lambrecht's processes are all and can effect all that he claims, or that may be desired. Yet he appears, in this instance, to have done, what no one has ever done before on any scientific principles whatever. He has *cured* that which experienced and intelligent apiarists—experts—pronounced to be foulbrood, even though it was artificially produced. So far so good. Now, to meet the objections, let him take in hand an ascertained case of foulbrood undoubtedly originating from *natural*

causes (and many such can readily be found); and if, in addition to what he has already accomplished, he effects a radical cure in such a case, we may certainly regard him as *quoad hoc* a doctor, though he have no diploma! He is an educated *chemist*, professes to regard the disease as subject to *chemical laws*, claims that he compounds his remedies on *chemical principles*, and applies them in accordance with *chemical theories*; and if he *cures* the patient, he may certainly be supposed to do it rigidly *secundum artem*! If he now, to make the matter clear to the comprehension of ordinary minds, proceeds and shows that he can cure foulbrood of every kind or description—contagious or non-contagious; mild or malignant; accidental, incidental, artificial or natural—that *fact* is about all the *beekeepers* will care to know. So long as doubts may be fairly or even plausibly urged against his methods or pretensions, it behooves him to meet and dissipate them; but mere captious fault-finding, it cannot be expected that he, or any one for him, will ever heed.

The differences between Dr. Preuss and Mr. Lambrecht do not strike us as being so great as to be irreconcilable. Nor does it matter much whether foulbrood is of fungoid origin, or finds its source in putrefactive fermentation, *provided* we are put in possession of efficient means to arrest and cure it. That is here "the one thing needful." On the theory of Dr. Preuss, however, we cannot see how the disease is ever to be extirpated, when it has once obtained foothold in an apiary or a district. If it is liable to start into existence and action whenever and wherever the fungoid sporules, ever floating in countless myriads in the atmosphere, find a suitable nidus and fostering heat and moisture to aid development, no colony can be always safe from the inroads of this disease, in any locality where bees can be cultivated. This "noisome pestilence" that hitherto has been literally "walking in darkness," may thus be expelled to-day, only to reappear to-morrow with re-invigorated virulence. But such does not, to us, appear to be the mode of its diffusion; and hence we are inclined to infer also that such is not the manner of its origination. Its progress in an apiary, so far as we have observed it or are advised, however it may have originated, can always be traced to direct communication and actual contact; and this accords better, it seems to us, with Mr. Lambrecht's views and theory, than with those of Dr. Preuss. Between the two, however—each an adept in his own province—the whole subject

is now fairly up for thorough investigation and the test of practical experiment; and thus it may speedily be determined who is right, and which of them can cure the genuine or naturally produced disease—if either can.

We sent to Professor Porter, of Easton, Pa., the specimens of bee plants enclosed to us by Mr. Gardner, of Christiansburg, Virginia, and Mr. Faul, of Council Bluffs, Iowa, as mentioned in the correspondence of the BEE JOURNAL for this month. That received from the former is the *Aster ericoides* L., noticed in a former number of the Journal, as an excellent bee plant, flowering in autumn, and abounding almost everywhere, especially along roadsides and in old fields. Those received from the latter are Golden Rods, No. 1 being *Solidago rigida* L., rather rare in the Eastern States; and No. 2, *Solidago Canadensis* L., common in all parts of the country.

Professor Porter remarks—"North America is the true home of the golden rods and asters, which are poorly represented in Europe. By reason of their great numbers and profuse blooming, they form a striking and beautiful feature in our autumnal flora. It is interesting, therefore, to know that the bees have found them out, and that they are likely to increase the yield of honey."

We have often heard the golden rods spoken of as superior honey plants, and have examined many varieties of them; but have never been so fortunate as to find bees working on any. We suppose the secretion of honey by them depends much on the kind of soil in which they grow and the character of the season.

"THE HEARTH AND HOME" is one of the best illustrated family newspapers now issued. It is published by Messrs. Pettengall, Bates & Co., in New York, at four dollars per annum for single copies; but three copies are sent for nine dollars, five copies for twelve dollars, and all over five copies at same rate, always in advance. These are strong inducements for clubbing; and those desiring to take a paper of this class cannot fail to be pleased with one so carefully edited and cheap as the HEARTH AND HOME.

We have received a copy of the "Illustrated Catalogue of Grapes, Small Fruit, &c.," published by the proprietors of the Bushberg Vineyards

and Orchards, at Bushberg, Missouri. Though regarding ourselves as much better qualified to judge of fruit in its edible state, than of plants or such publications, we can say of this catalogue that it appears to have been prepared with judgment and care. The condensed treatise on grape culture will be a valuable companion to those who design to devote attention to that subject.

Just as this number goes to press, we receive a copy of the "*Beekeeper's Instruction Book*," by S. B. Replegle, Roaring Spring, Pennsylvania. It contains practical hints for the general management of bees, and is intended for beginners. It is written in simple plain language, and is very brief. Price, 15 cents.

Correspondence of the Bee Journal.

COUNCIL BLUFFS, IOWA, Sept. 19.—Inclosed find two specimens of flowers that grow very thickly on our bottom lands. They have been in bloom for two months, and will continue in bloom until the frost cuts them off. They are the best honey-producing flowers I ever saw in any country. For the last two months my bees came in so heavily loaded that they fell in front of the stands, and sat there several minutes before they started to enter their hives.

My bees have averaged thirty pounds of box honey to the hive, within the last three weeks. I had two swarms of hybrids come out on the 6th of September. They issued at the same time and united. I hived them together, and to-day they have their hive full—ten frames, and are working in two of the surplus honey boxes. If the frost keeps off two weeks longer, they will fill three ten-pound boxes. As soon as these bees stop working this fall, I will weigh them, and an empty hive, and let you know the amount of honey stored by them from the 6th of September until frost comes. Please find out the names of those plants.—H. FAUL.

CHRISTIANSBURG, VA., Sept. 20.—Inclosed I send you a flowering specimen of a weed growing in great quantity in some of our pastures, and also in the woodland, and which proves to be the best honey plant that I am acquainted with—always excepting the white clover. The honey stored from it is of fine flavor and highly perfumed, and as clear as that gathered from white clover.

My bees are now working as strong as in June, and had it not been for the severe drouth which prevailed from the 15th of July to the 10th of this month, they would have stored a good supply of surplus honey; but during the drouth they consumed a large portion of their stores. Now they are gathering honey rapidly; the queens are depositing eggs at a great rate; and the hives will be very populous at the close

of the season, mainly with young bees. They will thus be strong and vigorous for next spring's work; and, like NOVICE, I have visions of scores of swarms and lengthy rows of jars filled with honey, in 1870. Give me the botanical name of the enclosed plant in the next JOURNAL.—J. R. GARDNER.

MONMOUTH, ILLS., Sept. 20.—Bees have done finely here this fall. They could not have done better than they did for a month past. About three weeks ago, I took sixty-eight pounds of box honey from a first swarm, which was hived on the 26th of June; and they now have two thirty-pound boxes about full. I had a swarm to come off on the 18th of August, and on examining them a day or two past, I found that they had filled all the frames in the hive. I expected to have to feed them the coming winter.

I read a great deal in the JOURNAL about the working qualities of the Italians. I have some stocks of each, the black and the Italians. For industry I would prefer the hybrids, but would rather not handle them much at this season of the year. To-day I undertook to examine a hive of Italians, but was glad to get away from them without seeing the inside. I thought at the time I should have liked to have had friend Baldrige to try his hand at handling them without a veil or bee-hat. I think it much pleasanter to feel that you have your eyes protected when you hear the angry buzzing of the bees about your ears.—D. M. DUNGAN.

NATCHEZ, MISS., Sept. 20.—I have now forty-two hives, of which about one-half are the Langstroth pattern. I commenced this season with eighteen hives of bees, most of which were in good condition at the opening of spring. Our past winter was, as is usual here, a not very severe one. We had some days in December and January during which some of my bees were able to fly out and gather pollen to a limited extent from a species of wild mustard, in bloom in sheltered places. Plum trees commenced blossoming here on the 27th of January, and were followed on the 11th of February by the peach, and at the end of March by the apple; during which time, for the most part, the weather was favorable and the bees availed themselves of the opportunity most assiduously.

My bees commenced swarming on the 6th of April, during the height of apple blossoming, as is the case yearly here; and continued swarming until the end of May. The season has been a very favorable one here for honey gathering. About a week ago the weather changed suddenly from hot to cool, and I perceived a decided cessation of gathering immediately afterward; although previously, during the entire summer, sufficient was to be gathered to supply their needs, without drawing upon their stores, while comb building and accumulating of honey in surplus boxes had not been going on since the middle of July.

I have some stocks of hybrid Italians. I am sorry I have not been able to preserve the pure breed thus far; though it is my intention to procure the purest next season to breed from.

From my experience with those I have, I can add my testimony to their superiority over the black bees. I procured two queens from another apiary last year, but did not succeed in getting those raised properly mated. In December one of the old queens was found, on a mild day, in front of the hive in a dying condition, from which I was unable to revive her, and the colony raised an imperfect queen which laid only drone eggs, and was broken up in the spring. The other old queen, whose wings were clipped, came out of her hive in February to die. I revived her by warmth and dropped her among the bees at the top of the hive. An hour after, I found a fine young queen on the ground in front, benumbed with cold—revived her and returned her. The old queen then again came out, and I destroyed her. Next day I found a young queen in front, in the same condition, and destroyed her; for, without opening the hive, I come to the conclusion that the old queen had failed from some cause, and the colony had superseded her. It happened fortunately that drones from the first hive spoken of were flying, and I had the satisfaction of seeing this queen return from her wedding excursion on a fine day in March, having without doubt mated with one of her own species, for no black drones had yet made their appearance. She proved to be fertile, but the hive did not swarm until the 20th of May. The swarm was a very large one, and has given me a considerable quantity of surplus honey, besides filling their hive. The bees however are dark and are not at all well marked. I am constrained to believe that the queens originally sent to me were not altogether pure. I have several hives of hybrids showing brighter bees than these. My hybrids have all done better than the black bees. One first swarm of them, hived May 3, (which is late here), threw off a swarm July 8th, and is now as populous as any of the rest; whilst none of my black bees have done the like.—J. R. BLEDSOE.

LAFARGEVILLE, N. Y., Sept. 28.—We have had here the most lamentable honey season within my recollection of nearly twenty years' beekeeping. The weather has been wet and cold. White clover blossoms in profusion. The basswood seems not to blossom every year; this year the trees had scarcely any blossoms. But what of it—the flowers were either deficient in honey-producing faculties, or the frequent rains must have diluted and washed the honey away. Instead of half a ton or a ton and over of surplus honey, as I have been used to harvest every year before, I shall this year hardly have any to speak of. My apiary numbers now one hundred and thirty swarms, fifty-three of which are new swarms. How many of them have gathered honey enough to winter I have not had time to ascertain yet. Peaceable times, however; no fighting or attempts at robbing.

Inclosed please find two dollars for the BEE JOURNAL for 1869-70—which credit as usual. Bidding you success in your devotion of spreading, through your columns, the knowledge as it advances in apiculture, I am respectfully, yours.
—J. N. ROTTIERS.

NORTH LEVERETT, MASS., Sept. 28.—Bees have not done much in this place this season, on account of the cold wet weather, until since the 1st of September. Since then they have done well. There has been quite a honey dew, and they have improved it nicely, and are going into winter quarters in good condition.—G. W. R.

WEST GROTON, N. Y., Oct. 1.—Bees have done poorly here this season. Not one-half of the stocks swarmed; and they have not all collected honey enough for winter, and, if to be wintered, will have to be fed. Bee-culture is still in the background here, but I am in hopes it will be advanced by the introduction of the Italian bees and the movable comb hives.—D. H. C.

CARTHAGE, IND., Oct. 4.—I had thirty-two stands of bees that lived through the last winter, and bought thirteen stands in the spring. I have now one hundred and ten stands, and 1,300 pounds of surplus honey. The increase in bees has been mainly by natural swarming. I use the Langstroth hive, 10½ inches deep, 18 inches long, and 14½ inches wide. My bees are nearly all Italians. I sowed six acres of buck-wheat on wheat stubble, during the second and third weeks in July. My bees worked freely on the red clover in the neighborhood, after the harvest. My last swarm came out on the 18th of August; and I had twelve swarms in the previous ten days.—P. W. McFATRIDGE.

BURTON, OHIO, Oct. 5.—Our bees have done poorly here; no surplus honey, and rather little for winter stores. There have been only a few swarms in these parts. We had a Bee Convention at the State Fair at Toledo, with good results in feelings, and adjourned to January next. I will see that the notice is sent to you in time for the BEE JOURNAL, as we give a general invitation to beekeepers in all the States, and expect a general turn out.—J. T. MERRIMAN.

DECATUR, ILLS., Oct. 5.—I embarked in the bee business about three years ago. The summer of 1868 proved very disastrous to the beekeepers here, on account of the "bee malady." Out of fifty-six stocks I saved only four. Most of my neighbors lost nearly all they had; while some living six or eight miles from here, lost only about as many as in other years. But nowhere in this section of country did bees do well that year. This has been a remarkably good year for bees—none better has ever been known here, both for increase and surplus honey. Some of us have picked up courage, and are trying again. While the Northwestern Beekeepers were in session here, we had some interesting discussions, and we hope it will give a new impetus to the business here. We endorsed the BEE JOURNAL, and secured you some new subscribers. May the day hasten when it shall be published semi-monthly.—J. B. R. S.

SOMERSET, OHIO, Oct. 7.—My bees have done well this season. I had eight stocks to commence with. I now have twenty-one. I got 1,100 pounds of surplus honey. My best hive gave me 250½ pounds of honey and one swarm;

and that swarm gave 106 lbs. 9 ozs.—entire product of hive, 356 lbs. 13 ozs. surplus honey and one swarm of bees. The old stock and the young swarm are both in good condition for wintering. I had a good supply of old combs and use a honey machine.—L. EDWARDS.

EXCELSIOR, MINN., Oct. 5.—My bees have done indifferently well this season; but I have had strange luck in my attempts to Italianize; having lost \$45 worth of queens, without Italianizing a single hive—a couple of cross hybrid stocks being the only trace they have left behind them.

I find the JOURNAL as valuable as ever, and rely almost entirely upon it now for instruction in apiculture. I feel as though I could hardly get along without it.

Flat hives—eight inch frames—have failed with me, on the score of breeding. We require higher frames for this high latitude. They should be at least twelve inches deep.—J. W. MURRAY.

JEFFERSON, WIS., Oct. 5.—I have all the stocks of my home apiary at home again now. They have gained much more than I expected they would. The whole gain of two hundred and seventy-one colonies was twenty-seven hundred and eighty (2780) pounds—a very good reward for four weeks' labor for two men. As matters look now, I can winter six hundred and fifty (650) colonies, without feeding. I will not undertake to winter more than twenty-five colonies that need feeding.—A. GRIMM.

NEWTON, IOWA, Oct. 8.—Bees have done nobly since the middle of August, filling their hives, storing much surplus honey, and swarming until September 5th. I unexpectedly had a natural swarm on the 1st of September, and with a little assistance they are ready for winter quarters.—C. J. HOUSEL.

WORTHINGTON, PA., Oct. 13.—I am much pleased with the BEE JOURNAL, and have already derived more benefit from it than its cost.—J. W. B.

LETTSVILLE, IOWA, Oct. 14.—We bought a stand of bees last fall for \$3.25. It and the increase are worth \$35.00, plus 72 lbs. of honey, at 25 cents, \$18.00; making \$53.00 of \$3.25, or 1537 per cent.—D. D. P.

ARE BEES PROFITABLE?—This question, so often asked, is answered satisfactorily, we think, by the fact that Dr. John Dillard, of this county, obtained from his stock of Italian bees, as the result of the season's work, *three thousand* (3,000) pounds of excellent marketable honey, and also eighty new and healthy stands of bees. This is an attractive showing, and will induce many of our readers to think more favorably of this branch of domestic industry.—*Louisville (K. Y.) Farmers' Journal, September 30, 1869.*

Never blow your breath on your bees. They will sting you directly if you do.—BUTLER.